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NEW YORK PUBLIC SCHOOLS.

Practical geometry, recently introduced into the New York public schools, has produced highly important results. It is such a favorite subject among the pupils, even in the primary departments, as to be used as a stimulus and a reward for well-doing in other lessons. It has also cured many truants, and even drawn boys of the rougher sort from the streets and docks, to assiduous efforts for their own improvement, producing by these efforts "Geometrical Albums," or practical, clear, and beautiful illustrations of the highly important, but sadly neglected, science of geometry, admirably fitted to teach others as well as themselves. The members of a school in one of the most neglected districts in the city, who were permitted to devote more than usual attention to the subject, finding their school hours too short for their work, asked and received permission to pursue it after the school closed, also on Saturday, the usual holyday. These were also urgent in requests to their teacher to meet them during the August vacation. On one occasion, under a partial promise to have the room opened at eight o'clock on Saturday, a dozen or twenty boys collected at that hour, and waited till nine o'clock, when they commenced their work, and continued it with great assiduity and earnestness until past twelve o'clock, and then wished the time to be extended for an hour longer.

The whole secret of the interest and attraction found in these exercises is, in one word,—*employment.* Their hands, eyes, judgment, imagination, taste and invention, are employed, vigorously and harmoniously, producing interesting truths for their minds, and visible, tangible, appreciable fruits from their hands. They are also animated with the consideration, worthy of the highest minds, that the fruits of their efforts are widely spread for the benefit of others; as the albums and various illustrations are widely spread into other schools and other countries. They have already been sent in considerable numbers to Mexico and South America, at the special request of individuals from those countries; also to Canada, London, Paris, and various other portions of the globe. As illustrations in this and other natural sciences speak a language of their

own, capable of being read and understood by all tongues and nations in the world, they may be sent to advantage to all missionary stations, as they have been already to many of them.

To say nothing of the thorough practical knowledge of a fundamental science connected with nearly every other science, and with most of the arts, the habits of mind produced by the practical exercises in geometry, as pursued in the New York public schools, are of the utmost importance to every man and woman in the world. Among these habits are industry, attention, investigation and order, as abundantly shown by the facts mentioned. With such habits of mind is a taste acquired for refined pleasures, as is most strikingly shown in the gentlemanly and respectful deportment exhibited in boys but a short time before of the most rough and boisterous manners.

It is worthy of remark, that geometry of a highly practical character was the favorite science of Washington, aiding doubtless in producing the sound judgment, consummate prudence and wisdom which distinguished the man, and saved his country; adding greatly to the light, liberty, and happiness of the human family.

The instruments used in the practical exercises referred to, are geometrical diagrams and solids, with various figures, patterns, &c., aided by appropriate explanations by the teachers, also in books on the subject,—all the instruments embraced in the general term "geometrical apparatus," which needs only to be known to be used both in schools and families. H.

RELATION OF PARENTS TO TEACHERS.

The following is an extract from an address at the anniversary of a Sunday School. If we omit the words "Sunday" and "Sabbath" wherever they occur, we may take it as an expression of the relation which ought to subsist between the parent and the Common School teacher.

"I turn to you, parents of the youthful beings who come to us for instruction. I appeal to you to say, if I have placed the responsibilities of the Sunday School teacher too high. Does it seem to you a light thing for us to hold the relation of teachers, and yet suffer these children to grow up in moral darkness? Or will you hold us guiltless, if, by our example or our words, we teach them to believe that religion is merely a secondary matter, and that for them to get forward in their worldly affairs is the one thing needful?

"Examine, I pray you, our duties; scrutinize our conduct; set before us our faults. We desire that you should be our judges, and that from you should come the first stone if we are condemned. Be you our judges;—and, as you estimate the importance of the little hour of influence which we have, let me ask you to bring it home to your own souls, how great must be the parent's power! how awful must be his accountability! You do right to expect that we should be faithful to

our post of duty,—that we should not lightly neglect a single Sabbath, or leave your children without the weekly portion which we have promised to give them. But do you expect this weekly portion alone to sustain and nourish their spiritual nature? Surely not. To you it is that they must look for the daily bread of their souls, as well as of their bodies; for God has made you the channel of his spiritual, no less than of his temporal bounty to them. We rejoice to be your auxiliaries. We feel gratified and honored by your confidence in us. Would to heaven we were more worthy of the sacred trust. But what can we do in our short and far-separated opportunities, compared with the constant sunshine of the family circle? There, if the power of Christianity reign as it ought, a religious influence will mingle with every scene. The morning, the noonday and the evening lesson will be given, not in set phrase, but will be felt in the mild radiance which it sheds over the delightful communings of the fireside. It will shine out and gild every hour of the mother's constant watch, and the father's fewer moments 'when he sitteth in the house,' or 'walketh by the way;' it will sanctify the sweet good night, 'when he lieth down,' and the morning salutation, 'when he riseth up.'

"You will pardon me my freedom, for I am a parent as well as a Sabbath School teacher; and when in this school I have seen the difference, in regard to moral and religious training, between children who come from families equal in worldly standing, equal in intelligence, equal in means of knowing their high responsibilities,—I have been filled with wonder. While I have rejoiced to behold the marks of parental faithfulness in some cases, my heart has been pained by proofs of its total absence in others. Often, too, does the child of the poor and widowed mother exhibit the effects of a spiritual training, aye, and of a courteous good breeding, too, which ought to convey a lesson to those who are blessed with greater external advantages. Here, too, may we trace, in lines of great distinctness, the different influences of the week-day school;—in these children, rudeness that can be controlled only by the reign of terror, irreverence in manner and feeling for all things venerable and holy;—in those, docility and quietness, and an amiableness which makes teaching a pleasure.

"But there is one influence, the marks of which never can be hidden wherever its blessing has fallen. It is confined to no division of society,—in the rich and the poor, the humble and the elevated, it is alike conspicuous. I mean the influence of the pious mother.

"Christian mother, could you go over with me the classes of our school, or of the week-day school,—could you trace the progress of our youth as they pass from the school-room and from the parental roof, and launch out upon the ocean of busy life,—could you mark the workings of the mind as it encounters the temptations which must assail it,—how would you tremble! Yet, if you have been faithful, how would you rejoice to behold the power of a pious mother's love! I seek

not to underrate a father's duties; I would not veil from him the awful weight which must come upon his heart if those duties are neglected. But to you, to a mother alone, it seems to me, has God given the power to imprint a stamp that never can be erased. The words of the pastor may fall upon the closed ear like drops upon the flint; the instructions of the teacher may be heard and forgotten; even a father's counsels may be obliterated by the corrodings of temptation and sin;—but a mother's first lessons, a mother's prayers, a mother's love, go down to the depths of the human soul too far ever to be eradicated. There they lie,—as a hidden spring, perhaps, but ever ready to gush up at the touch of conscience.

"Thus it is, parents,—we can be helpers of each other; but how little the Sunday School alone can do for your children, a moment's reflection will show."

QUALIFICATIONS OF TEACHERS.

A TEACHER should not only be a learned man, he should be able to *communicate* his knowledge with such directness and clearness that the child would feel

> "As if the soul that moment caught
> Some treasure it through life had sought."

An aptness to teach, united with a warm, generous fellow-feeling *for children*, is indispensably requisite for him who is

> "To aid the mind's development, to watch
> The dawn of *little* thoughts—to see and aid
> Almost the very growth"——.

A teacher should possess a good moral character.

He should be at all times under the most watchful self-government.

He should possess a good judgment—"that high, clear, round-about common sense," as Mr. Locke calls it.

He should have an even and uniform temper.

He should have decision and firmness.

He should be able to discriminate character.

He should be qualified to illustrate and simplify the studies.

He should *love* his business.

He should make his calling his *study* and profession for life.

He should be patient and persevering.

He should be pleasant and affectionate.

He should be capable of surmounting difficulties, and of showing pupils the importance of knowledge.

The above paragraphs are copied from a new Temperance paper, published at Wheeling, Va., called "The Fountain." They are a fair specimen of its excellent character. We have an apology to make to the Editor, for neglecting his civil proposal to exchange. Judging from the numbers we have seen, we should think ourselves great losers by failing to accept it. We did not, in a previous number, see the "P. Ex." We hope he will not suffer the reputation of the Common School Journal to suffer from this omission of its ED. PRO TEM.

SYMPATHY FOR RETURNING SINNERS.—Our chief question, as Christians, in all matters of duty, is, what, under like circumstances, would my Master have been, or said, or done? Suppose that he were on earth and with us now, on which side would his sympathies be; with those who despise and set at naught the scruples of their weaker brethren,—who keep aloof from the returning prodigals who are yearning for light and sympathy and help,—who will not even give them the countenance of their personal example, or forego indulgencies, which, in the peculiar posture of the times, make their table a snare and an offence? Or would he be with these late despised and rejected of men, as they seek to be washed from their sins, and placed erect in the divine image in which they were created? Would he not be found with them, cherishing every element of good, and checking every evil tendency, leading the crushed spirit to the Father of mercy, strengthening the feeble resolve, keeping stumbling-blocks out of the path of the frail, sanctioning abstinence from whatever might ensnare or wound the yet tender conscience? The question is its own answer. He, who uttered the parable of the wandering son and the loving father; he, who spake of the good shepherd's going to bring back the one straying sheep; he, whose feet were bathed with the penitential tears of her who had been a sinner; he, who was the friend of publicans and sinners; he, who crushed not the bruised reed and quenched not the smoking flax; he, who held sacred every institution and observance that might serve as a fold for the humblest lamb in his flock,—he, we cannot for a moment doubt, would lend his sympathy and aid to this blessed work, to these ransomed sinners. May his spirit sanctify the work, may his blessing rest upon its subjects.

Brethren, let this mind be in you, which was also in Christ Jesus, whose words were: "Whosoever will be great among you, let him be your minister, and whosoever will be chief among you, let him be your servant, even as the Son of Man came not to be ministered unto, but to minister, and to give his life a ransom for many."—*A. P. Peabody.*

Is there a man who gets from you the means of making his home a hell? What a relation are you establishing between that man and his family and yourself! His wife looks upon you as her worst enemy,—she traces to your dwelling the bread for which she and hers hunger. She considers the apparel of your household as torn from her children's backs,—and she is right. There are interviews also in reserve in the eternal world between him who fills and him who drinks the intoxicating cup, between the caterer and the slave of depraved and guilty appetite. And such interviews are you willing to face? Are you willing to meet in eternity men, to whose bodies and souls you have administered the cup of death?—*A. P. Peabody.*

If God care for anything, he must care for that which is least as well as that which seems greatest to us. There is, indeed, no line which parts the mean and the noble, the insignificant and the eventful. The floating of a bulrush cradle on the waters of the Nile seemed one of the cheapest things under heaven, and yet what momentous consequences depended on the safety of that tiny ark? How has the world's history been forever changed by that brave soul who burst from what seemed a watery grave to rend the chains of a nation's bondage, and establish the chosen people on a mightier throne than any of earth, the throne of divine love and care! A thousand proofs could readily be given, that, where scenes trifling in themselves are parts of an immensely important whole, they could no more be spared from the world's history, than that most valuable event in all time, the death of Christ.—*Christian World.*

Six Reasons for planting an Orchard.—1. Would you leave an inheritance to your children?—plant an orchard. No other investment of money and labor will, in the long run, pay so well.

2. Would you make home pleasant—the abode of the social virtues?—plant an orchard. Nothing better promotes among our neighbors a feeling of kindness and good-will, than a treat of good fruit often repeated.

3. Would you remove from your children the strongest temptation to steal?—plant an orchard. If children cannot obtain fruit at home, they are very apt to steal it; and when they have learned to steal fruit, they are in a fair way to learn to steal horses.

4. Would you cultivate a constant feeling of thankfulness towards the great Giver of all good?—plant an orchard. By having constantly before you one of the greatest blessings given to man, you must be hardened indeed if you are not influenced by a spirit of humility and thankfulness.

5. Would you have your children love their home; respect their parents while living, and venerate their memory when dead; in all their wanderings look back upon the home of their youth as a sacred spot, an oasis in the great wilderness of the world?—then plant an orchard.

6. In short, if you wish to avail yourself of the blessings of a bountiful Providence, which are within your reach, you must plant an orchard. And when you do it, see that you plant good fruit. Don't plant crab-apple trees, nor wild plums, nor Indian peaches.—*Farmers' Monthly Magazine.*

THE TRUE TEACHER.

He woke the sense, he warmed the breast,
Affirming truths supreme;
And let the voice within attest
He told no misty dream.—*Sterling.*

SIXTH ANNUAL REPORT OF THE SECRETARY OF THE BOARD OF EDUCATION.

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One fact must be noticed in this connection, the importance and bearing of which will be seen hereafter. The air does not, like the blood, flow *through* the lungs. Its egress is by the same passages as its ingress.

It is necessary here, to introduce a single paragraph in relation to another vital organ of the body. Although this may seem a digression, yet it will not be found so in the sequel.

The briefest outline of physiological science would be radically defective, if it took no notice of *skin*. Surprising as it may at first seem, this simple envelope of the body, is a vital organ; because, if any considerable proportion of it were to be destroyed, death would ensue, as certainly as though we were to remove the brain, or take out the heart. The skin consists of three layers or coats. The exterior coat is a comparatively rough, hard substance, and is insentient. Its object is the protection of the two interior coats, as the bark or rind of a tree protects those fibres of the wood in which the processes of vegetable life are carried on. The second coat contains that coloring matter which gives to different races, or individuals, their peculiar hue or complexion. It is often said that differences in regard to human rights and privileges, are founded upon the skin, but this is not philosophically correct; for, as far as any such differences are founded on color,—all the coloring matter residing in one only of the three membranes,—those differences are obviously founded only on a third part of the skin. The interior coat is the living or true skin. It is pervaded by nerves and blood vessels. In a healthy person, these blood vessels, although invisible to the eye, are in a state of the greatest activity. The three coats,—or the whole membrane,—are perforated by an inconceivable number of apertures, called pores. Through these pores a great deal of the waste matter of the system is excreted or discharged. While taking vigorous exercise, perspiration flows out from the body through these orifices, and collects in drops. This is called *sensible* perspiration, because its quantity is so great as to be perceptible to the senses. The phenomenon of sensible perspiration is an occasional one, essential to health, but more or less frequent according to the habits of the individual. But there is an *insensible* perspiration, which is habitual. Languor, cold, numbness, seize every part of the body, if its insensible perspiration is checked; and unless it can be revived, these sensations of coldness and torpor will prove the harbingers of death. The watery particles exuded through the pores, are a combination of hydrogen which we take into our stomach with our food, and of oxygen which we inhale through the lungs. But the perspiration is far from being pure, limpid water. It contains salts, fatty or unctuous matter, and other impurities. It collects dust also as its particles fly through the air and come in contact with the skin; or

as they are communicated to our persons by our clothes. The heat of the body vaporizes the watery part of the perspiration, and in so doing it leaves a sediment at the mouth of every pore, like a sand-bar at the mouth of a river. Unless this sediment is removed by frequent washings and friction of the whole person, it will accumulate, harden and incrust the entire surface, and form a loathsome and disgusting amalgam of dirt and grease. But when exercise is taken sufficient to throw out the waste parts of the system, through the pores, and then these nauseous obstructions are removed by daily ablution, the currents of life will flow out to the surface, and to all the extremities, full, deep, and majestically strong. The jockey understands this perfectly well in regard to his horses, though so ignorant of it in regard to himself; and a gentleman who rarely washes or brushes his own person, would discharge a groom who should neglect to wash and curry his horses. The best antidote and remedy for most cutaneous disorders or eruptions, is cleanliness. We are accustomed to call such maladies, diseases of the skin; but they are often no more diseases of the skin, than a burn is. They are diseases of unclean habits. For their removal or prevention, the practices of the community must be altered; but this will not be done without the diffusion of physiological knowledge.

I hope I have now given such an outline of the principal vital organs and functions, as will render the practical remarks which are to follow intelligible and instructive.

It is manifest from what has been said, brief and incomplete as it is, that the health, vigor, and longevity of the human family are almost entirely dependent upon three things.

1. A sufficient quantity of wholesome and nutritious food, well prepared before it is sent into the stomach.

2. The due vitalization of the blood in the lungs.

This vitalization of the blood is effected by our inhaling the necessary amount of pure air, which, as I shall presently show, is utterly impossible without active exercise.

3. Personal cleanliness, by which is meant cleanliness of the whole surface of the body.

And surely it is a truth fitted to awaken our most fervent gratitude to the Author of our existence, that He has placed these three great conditions of our physical well-being under our own control. Of the nature or essence of the vital principle we are as yet ignorant. Some of the internal ganglia, also, are mysteries to the profoundest science. Of the more subtile movements in the interior of the system, we can take no available cognizance. These inward vital processes are not subject to our volition. The heart will not continue to beat, nor the blood to flow, at the bidding of the mightiest of the earth. The sculpture-like outline of the body; its gradual and symmetrical expansion from infancy to manhood,—every day another, and yet the same; the carving and grooving of all the bones and joints; the weaving of the muscles into a compact and elastic fabric, and their self-lubricating power, by which, though pressed together in the closest order and crossing each other in

all directions, they yet play their respective parts, without perceptible friction; the winding-up of the heart, so that it will vibrate the seconds of threescore years and ten, without repair or alteration; the channelling out of the blood vessels, more numerous than all the rivers of a continent, and so thoroughly permeating every part, that there is no desert or waste spot left, where their fertilizing currents do not flow; the triple layer of the skin, with its infinite reticulations; the culling, and exact depositing, of the material of that most divinely-wrought organ, the brain, for whose exquisite workmanship it would seem as though air, and light, and heat, and electricity, had all been sifted and winnowed, and their finest particles selected for its composition; the diffusion of the nerves over every part of the frame, along whose darksome and attenuated threads the messengers of the mind pass to and fro with the rapidity of lightning; the fashioning of the vocal apparatus, so simple in its mechanism, and yet so varied in its articulation, and its musical range and compass; the hollowing out of the ear, which secures to us all the utilities and blessings of social intercourse; the opening of the eye, on whose narrow retina, all the breadth and magnificence of the material universe can be depictured; and, finally, the power of converting the coarse, crude, dead materials of our food into sentient tissues, and miraculously enduing them with the properties of life;—over all these, as well as over various other processes of formation and growth, our will has no direct control. They will not be fashioned, or cease to be fashioned, at our bidding. It was in this sense that the question was put, "Which of you by taking thought can add one cubit unto his stature?" It is not by "taking thought," but by using the prescribed means,—by learning and obeying the physical laws,—that the stature can be made loftier, the muscles more vigorous, the senses quicker, the life longer, and the capacity of usefulness almost indefinitely greater.

It is diet, oxygenation of the blood, and personal purity or cleanliness, which have the prerogative of accomplishing these objects; and these are in our power, within our legitimate jurisdiction; and if we perform our part of the work, faithfully and fully, in regard to these things, Nature will perform her part of the work, faithfully and fully, in regard to those subtler and nicer operations which lie beyond our immediate control.

On the first point,—that of diet,—I have already said as much as the limits of this Report will warrant.

In regard to the second point,—the proper oxygenation of the blood,—a few observations will make it apparent that this vital operation may be defeated in any one of three different ways,—or, with more fatal despatch, in all of them acting together.

1. Even when the lungs are sound and of good size, the blood may fail to be vitalized, by our breathing impure air,—that is, air of which less than twenty-one hundredth parts are oxygen. As breathing the air once unfits it for being breathed again, until it has come in contact with vegetation, or been

otherwise renovated in the great laboratory of nature, it follows that a quantity of new air should be supplied to the lungs just as fast as we exhale the old. This is most perfectly done under the open sky, and in the day-time, and hence the universal fact, other things being equal, that those who live most out of doors, enjoy the best health. In our apartments and houses, fresh air should be admitted just as fast as the oxygen of the old is destroyed by our own breathing, or by fires and lights; and it should be borne in mind that, as the same process is going on in us, and in a common fire or flame, a few lights in a room will consume as much oxygen as a man. Now the mother violates this rule when she sinks her babe in the pillows of a cradle or crib, and, by so covering it up as to impede the access of fresh air to its lungs, may with almost literal truth be said to bury it alive;—because, in such case, the infant is compelled to breathe the same air the second time, or, perhaps many times. Parents violate this rule when, for the sake of guarding against what they call the inclemency of the season, they make their children sleep,—or sleep themselves,—in a small room, with closed doors, and with windows carefully caulked in order to keep out the cold. A child who has been physically well trained will not suffer so much by sleeping with the windows of its apartment open, when the thermometer is at zero, as by habitually lying all night in a close, pent-up apartment. This law is flagrantly violated when children are kept in-door for days together, although the weather be as cold as our latitude will permit, instead of being sent out daily, and several times a day, to take such vigorous exercise as will keep them warm, in the open air; or, at least, in some place where the sun's light can come.* This law is most absurdly and cruelly violated by teachers who supply only impure air for their pupils to breathe, at the same time that they require them to study. An engineer might as well require his locomotive to go, when he shuts off the draught from the fire-chamber. The Pharaohs who demand intelligent study in the absence of pure air, are as tyrannical as the Pharaoh who exacted a full tale of bricks without straw,—with the aggravating circumstance against them, that this tyranny is exercised upon children instead of men. A great many of our private dwellings, especially those which are used as boarding houses, and, almost universally, our public edifices, are constructed in open disregard of the laws of physiology.

The immediate effects of breathing impure air are, lassitude of the whole system, incapability of concentrated thought, obtuseness and uncertainty of the senses, followed by torpor, dizziness, faintness, and, if long continued, by death. When great mental efforts are put forth, simultaneously with the inhalation of impure air, so much black blood is forced into the brain, in order to sustain its energies, that a fit of apoplexy at once closes the scene. Instances of this will occur to every observant mind. That of the late Chief Justice Parker of Mas-

* The Neapolitans have an excellent proverb, that where the sun does not come, the physician must.

sachusetts, of Mr. Emmet of New York, and Mr. Pinckney of Charleston, were obviously cases of this kind. Had their court-rooms been well ventilated, it may be considered as almost certain that neither of these melancholy events would have happened. Those great men were sacrifices to the barbarous manner in which the court-rooms of a community, calling itself civilized, had been constructed. They were profoundly learned in the laws of the land, but as profoundly ignorant or disregardful of the laws of nature. The eminent and excellent chief justice of Massachusetts was just as much the victim of a violated law, as the malefactors whom he was trying, when he died.*

Different races of animals exhibit to our daily observation the consequences of a more or less perfect oxygenation of the blood. Frogs, toads, lizards, and reptiles generally, are so constituted or organized, that only a part of their blood flows through their lungs, at each circulation. The residue of it, therefore, goes round twice, thrice, or even more times, without imbibing oxygen or throwing off carbonic acid. Hence their general character of inactivity, dulness and stupidity. They remain in one position and almost motionless during the greater part of their lives, and exhibit a very low form of animated existence. The standing temperature of their blood is several degrees lower than that of most other animals,—the natural consequence of its imperfect oxygenation. But, on the other hand, the organization and structure of most birds are such, that they breathe, in proportion to their bulk, a far greater quantity of air than man. Their standard of temperature is several degrees higher than that of the human species. Hence their vivacity and celerity of motion; or rather, their incapability of rest. They are much upon the wing, or flitting from spray to spray, overflowing with music which seems to pour out of itself; and they evince an existence crowded with gladsome emotions. Just so far as we, by our architectural arrangements, or by our confinement of children within doors, administer impure air for their breathing;—just so far do we take from them the warmth, vivacity, and joyousness of birds, and inflict upon them, in its stead, the coldness, torpor and stupidity of frogs, toads and lizards.

2. The second cause which prevents that due oxygenation of the blood, which is so essential to health, vigor, and length of days, is *a deficiency in size of the lungs themselves.* Men of a lively expression, florid countenance, and such great muscular activity as makes motion a pleasure and inaction a pain, and who are so ardent that their common feelings are almost passions,—that is, men of a high sanguineous temperament,—always have a large chest. A large chest is synonymous with large lungs; for, if not interfered with, the lungs determine the

*In the British House of Commons, during the memorable session of 1835, when the importance of the interests at stake and the equal balancing of parties occasioned an unusually close attendance and very lengthened sittings, the lives of several of the members were sacrificed, in consequence of the bad condition of the air; and the health of many more, even the most robust among them, was very seriously impaired.—*Dr. A. Combe.*

size of the chest, as the brain determines the size of the cranium. Just in proportion as the capacity or roominess of the lungs is lessened, must the quantity of the air which is brought into contact with the blood be diminished. And, as the quantity of the air admitted to contact with the blood is diminished, in the same ratio must the oxygenation of that fluid be reduced. To have small lungs, therefore, or, what is the same thing, a small chest, is a calamity to the health, as well as a deformity to the person. All animals in their highest state of physical development, have a full, capacious chest. Indeed, the greatest energy of the digestive organs, the richest nutrition carried by the blood to the various parts of the system, and, especially, the greatest quickness and power of tension in the muscles, cannot exist without large lungs,—that is, without a large chest. As well might vegetation flourish without heat or moisture. What a deep and capacious chest have the highest specimens of that noble animal, the horse! It is in that spacious laboratory that his fleetness and endurance are generated; and generated so rapidly that he champs the bit and becomes impatient of the rein, that debar him from giving loose to his pent-up energies. So of the ox, whether the wild buffalo of the prairies, or the domesticated animal which is so serviceable to man. In those emblems of beauty which, in all ages, have delighted the sculptor, the painter and the poet,—in the lion, the swan, the dove, or the wild pigeon which cuts the air with such amazing speed and sustains itself so long upon the wing,—in all these, the first feature which catches the artist's eye is the broad, expanded, full-rounded chest. This part of the body, then, is not only the seat of the highest energy, but the type of the most perfect elegance. Such was the universal sentiment amongst those worshippers of beauty, the Greeks. Had Phidias or Praxiteles sculptured a Jupiter with a narrow and sunken chest, or a Venus whom a contracted zone would clasp, not all the renown of their previous works, nor their countrymen's idolatry of genius, could have saved them from public insult, or judicial ostracism.

Persons suffer under the misfortune and ugliness of small lungs, from different causes. They come by hereditary transmission. If both the parents have small lungs, it is almost certain that their offspring will be afflicted with the same deformity. In such cases, however, the infirmity of the children may, to a great extent, be remedied, by inducing them to take much exercise, especially of the chest and upper extremities, in the open air. This, if continued through childhood and youth, will result in a great expansion of these organs; for, under favorable circumstances, nature always seems anxious to retrieve her losses.

There are also certain mechanical trades, in which the body is continually bent forward, or confined in a sitting posture,—the hands being fixed at one point, and the shoulders forced round towards that point as though they were striving to look at each other; all of which tends to cramp the chest, and to make its interior and fore part, convex instead of concave; and

of course, to dwarf the size and impede the play of the lungs. In such cases, the workman should stand as much as possible, instead of sitting; and, when not engaged in his employment, should practise counteracting exercises.

The growth of the lungs may also be impeded by artificial or mechanical compression, in perverse imitation of the Chinese, who swathe the foot from birth, and confine it through life in a small, inelastic shoe; or of the tribe of Flathead Indians, who deform the head by fastening a hard board upon the frontal portion of the cranium. And the victim of Chinese fashion may as well expect to walk or dance with the grace and lightness of a Camilla, or the tribe of Flatheads to attain the intellectual stature of Lord Bacon, or Dr. Franklin, as any one can expect to enjoy vigor of body, buoyancy of spirits, or energy of intellect, who is doomed by any tyrant, whether of law or of custom, to interdict the free motion and enlargement of this vital organ, the lungs. It is matter for rejoicing that those monsters of cruelty who invented the iron boot and the thumbscrew, for the torture of their victims, did not understand enough of physiological laws to know that they could inflict far more various and enduring tortures, by enclosing the whole body in one thick-ribbed encasement, and thus, at once, counterwork all vital processes. Such a contrivance, too, would have caused not merely pain to the individual, but deterioration of the progeny; and, for all those who had any pride of family, would have been far more effectual in entailing bodily and mental imbecility, and consequent obscurity and disgrace upon their descendants, than any attainder of blood, or act of outlawry.

To obviate the dwindling and debilitating effects of this practice upon the race, the community must allow its children to grow up without any obstruction to the development of this vital part of their frame. The main hope of remedy lies in a better training of the young,—in keeping the yoke from the necks of those who have never been degraded and enfeebled by it; for, so enervating to the whole system is this practice, so deeply injurious to intellectual and moral manifestations is it, to send continually and for years, a current of unoxygenated, black blood to the brain, that the victims of the custom become almost unable to appreciate any argument or persuasion addressed to their reason or religion. The minds of such persons run to fancies and vagaries, while common sense seems obliterated. This, indeed, might be predicted from a knowledge of physiological laws. Sapping, as the habit does, the *vital force* alike of body, intellect, and moral sentiments, it belongs to that class of offences which seem, in the very act of commission, to take away from the offender both the desire and the ability to reform, and which inflict the last act of degradation,—a willing bondage.

Let any one who has not robbed himself of the power of reflection consider, for a moment, the collocation or juxtaposition of four of the great vital organs,—the lungs, heart, stomach and liver,—upon which a compression around the upper and central part of the body directly acts. On the right and left

sides of the chest, from the neck to the diaphragm, or midway line of the trunk, are situated the lungs. Between their right and left lobes and a little backward towards the spine, is suspended the heart, which, in its ceaseless and uninterrupted play, provides for itself just as much space as it needs. Immediately below is the stomach, which, when distended with food, is only separated from the heart and the lungs by that thin membrane the diaphragm. On the right of the stomach and backwards to the spine is the liver, whose secretions are so essential to the formation of healthy chyle, and to the action of the abdominal viscera. The healthy stomach, after a meal, is in continual motion, contracting and expanding, rolling, lifting itself up, first at one end and then at the other, until the work of digestion is completed, and the organ has disburdened itself of its contents. The heaving and subsiding of the lungs, at every breath, and the systole and diastole of the heart as it alternately receives and ejects the vital stream, have, as every one knows, neither intermission nor pause, from birth till death. Indeed, any intermission or pause in the action of these organs *is* death. If permitted to fulfil the wise ordinations of nature, each one provides for itself ample space for all its movements. Neither interferes with or molests its fellow. They rather assist each other. The full distension of the lungs in breathing helps the contractile muscles of the stomach, and the pressure of the chyme, as it passes along the duodenum, forwards the biliary secretions.

No mechanism ever invented by the art of man runs so quietly, so forcibly, or so long. There is no clogging, no stifling, no friction. The ribs are hung on hinges which, at every act of inhalation, open like the bows of a bellows, to enlarge the apartment where these vital organs are plying their work, and preparing the precious pabulum of life. But suppose the walls which enclose these busy operators to be so contracted, that all, in their desire for the necessary space, begin to encroach upon each other's limits. Suppose, by further compression, each one to become like a man in a crowd, unable to move hands or feet. Incumbered, choked, thwarted in its exertions, each organ will strive to thrust the others from a space which is too straitened for all, and thus the force which every one needs for completing and perfecting its own work, is expended in hostile though useless aggressions upon its allies. The stomach cannot stir up the food, move it from side to side, and mingle it with the gastric solvent. The lungs, from above, press upon it with a dead weight. The heart can but half open for the admission, and, therefore, cannot contract vigorously for the swift propulsion of the blood,—and thus the momentum of its current is lost before it reaches the extremities. The liver cannot concoct its secretions, and such as it prepares are driven from it at unseasonable times. The fine lacteal ducts find only coarse and half-prepared material for nourishment, and this chokes and inflames their minute channels as they bear it onward laboriously to the blood. As an inevitable consequence, innutritious blood is poured into the right side of

the heart. But rich and strong blood being the natural stimulus of that organ, it now works languidly in forcing the stream forward to the lungs, both from want of room and of the appropriate excitement. When the lazy current of blood reaches the lungs, to throw off its poisonous carbonic acid gas, and to seek that life-giving elixir, the oxygen of the air, it finds all the air cells crowded together and almost closed, or occupied only by corrupted air; and hence it is obliged to return to the left side of the heart, almost as black and lifeless as when it emerged from the right;—or, to illustrate the subject by a metaphor before used, the diver, having in vain come to the surface after air, is compelled, though at the risk of suffocation, to sink again to the bottom without refreshment. From the left side of the heart the blood now starts upon its course a second time, with imperfect vitalization; and hence it issues in a tardy, pestiferous stream, diffusing a painful sense of languor over all the limbs, and blunting the acuteness of every sense, until, at last, its muddy current ascends to the sacred temple of the brain, to spread clouds and darkness through all its mansions. From this capitol of the realm it returns, again to contend with the same obstructions; and, instead of being the antagonist, to become the ally of all the chemical forces in their attack upon the citadels of life.

A single additional remark will suffice to show, that any constriction around any part of the body, will impede the current that drives the machinery of life. As a general rule, the arteries, through which the blood is propelled outward from the heart, lie deep beneath the surface. This course serves to secure them from external injuries, and as the blood flows more freely from an opened artery than from a vein, and is with more difficulty stanched, our exposure to its loss is greatly diminished by such an arrangement. Most of the veins, on the other hand, lie at or near the surface. In persons of high health, the veins start out, and exhibit themselves above the common surface; and this seems to have been carefully regarded by the ancient sculptors in their representations of physical strength. From the fact that so much of the blood flows near the surface, on its return to the heart and lungs, it is easy to see that any ligature around trunk or limb, must impede the current as it hastens onward to renew the life which it has lost. Suppose the enginemen of the fire department, when called out to extinguish a conflagration, should lay heavy weights all along upon the hose, through which the water ought freely to flow, could they reasonably expect to subdue the flames, and save property and life from destruction? Certainly with as much reason as any person, who obstructs the free flow of the blood, by bands or ligatures over any part of the body, can expect to enjoy a full measure of health.

The injury, however, of constricting the blood vessels by pressure upon the surface, is different in different parts. A tight cord around the neck is fatal. Hence this mode has been adopted by several nations for executing the punishment of death upon criminals. If the structure of the human system

were understood, a severe mechanical compression around the body would be considered a misfortune and a disgrace, next in order to a noose about the neck. It is a less speedy process, indeed, for extinguishing life, than strangulation, but in its effects upon the criminal and upon offspring, it inflicts the pain of a hundred deaths.

But any tight band or ligature,—a hat, neck-cloth, glove, boot, shoe,—fastened around any part of the body, is proportionally injurious. That painful and disabling malady,—swelled limbs,—is oftentimes occasioned by the ignorant practice of binding something so tight upon or around the limb, as to prevent the free flow of the blood back to the heart. A rule, as universal as it is intelligible, in regard to the closeness of our garments, is, that they should always allow a free motion of the parts beneath them. If, for instance, the sleeve of a coat fits so tightly to the arm, that the arm cannot turn without turning the sleeve also, then it is so tight as to check the circulation and to injure health. And so of any other part of the dress. But when the body and the limbs move freely within the dress, a friction on the skin is caused which is highly salutary.

[To be continued.]

Amusing Anecdote.—The Archbishop of Dublin tells of a horseman who, having lost his way, made a complete circle; when the first round was finished, seeing the marks of a horse's hoofs, and never dreaming that they were those of his own beast, he rejoiced, and said, "This at least shows me that I am in some track;" when the second circuit was finished, the signs of travel were doubled, and he said, "Now, surely I am in a beaten way;" and, with the conclusion of every round, the marks increased, till he was certain he must be in some frequented thoroughfare, and approaching a populous town; but he was all the while riding after his horse's tail, and deceived by the track of his own error. So it may be with great men who pursue their own tales in dinner circuits, newspapers and reviews, repeating the same error until they become so misguided by it, as to take the impression of their own deviations for proof that they were going right.—*Delaware Journal.*

THE OAK OF JUDAH.

How slowly ripen powers ordained to last!
The old may die, but must have lived before;
So Moses in the vale an acorn cast,
And Christ arose beneath the tree it bore.

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